

Atty Dkt. No.: 10020334-1
USSN: 10/086,932

AMENDMENTS

In the claims:

1. (Currently Amended) A method for calibrating a first molecular array scanner with a second, reference molecular array scanner, the method comprising:
initially using a same-dye reference array comprising a first dye to calibrate ~~calibrating~~ the first molecular array scanner with the second, reference molecular array scanner ~~using a same dye reference array~~; and
maintaining the initial calibration of said first molecular array scanner with said reference molecular array scanner by ~~using one or more a~~ stable-dye reference arrays comprising a second dye.
2. (Currently Amended) The method of claim 1 wherein ~~initially~~ calibrating said same-dye reference array is used to initially calibrate the first molecular array scanner with the second, reference molecular array scanner ~~using a same-dye reference array further comprises by~~:
scanning the same-dye reference array in the second, reference molecular array scanner to determine a measured signal intensity for the same-dye reference array in the reference molecular array scanner;
calculating an expected intensity for ~~subsequently~~ scanning the same-dye reference array in the second, reference molecular array scanner a second time; and
scanning the same-dye reference array in the first scanner, and adjusting parameters in the first molecular array scanner to produce the expected intensity ~~as if it were scanned in the reference scanner for the first time~~.
3. (Currently Amended) The method of claim 2 wherein calculating an expected intensity for scanning the same-dye reference array in the second, reference molecular array scanner a second time further comprises:
determining a function of expected signal intensity ~~decrease~~ per scan of the same-dye reference array; and
selecting the expected intensity corresponding to one more than a number of

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times that the same-dye reference array has been scanned.

4. (Original) The method of claim 1 wherein maintaining the initial calibration using one or more stable-dye reference arrays further includes:

following initial calibration, scanning a stable-dye reference array with the first molecular array scanner in order to determine a signal-intensity-to-stable-dye-concentration ratio; and

periodically rescanning the stable-dye reference array with the first molecular array scanner, adjusting the first molecular array scanner to provide the determined signal-intensity-to-stable-dye-concentration ratio.

5. (Currently Amended) A computer readable medium having recorded thereon S signal intensity data, scanned from the surface of a molecular array by a molecular array scanner calibrated to a reference molecular array by the method of claim 1, ~~encoded by: storing representations of the signal intensity data in a machine-readable medium; transmitting representations of the signal intensity data over an electronic communications medium; displaying the signal intensity data on display device; and printing representations of the signal intensity data in a human-readable medium.~~

6. (Currently Amended) A system for calibrating a number of molecular array scanners to provide a fixed signal-intensity-to-label-concentration ratio, the system comprising:

a reference molecular array scanner;

a same-dye reference array comprising a first dye used to establish an initial calibration of each of the number of molecular array scanners to the reference molecular array scanner; and

~~one or more~~ a stable-dye reference arrays comprising a second dye used to maintain the initial calibration.

7. (Currently Amended) The system of claim 6 ~~wherein configured so that~~ the same-dye reference array is used to establish an initial calibration of a first

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~~each of the number of~~ molecular array scanner[[s]] to the reference molecular array scanner by:

scanning the same-dye reference array in the reference molecular array scanner to determine a measured signal intensity for the same-dye reference array in the reference molecular array scanner;

calculating an expected intensity for ~~subsequently~~ scanning the same-dye reference array in the reference molecular array scanner a second time in each of the number of molecular array scanners; and

adjusting the first each of the number of molecular array scanner[[s]] to produce the respective calculated expected intensity ~~for the molecular array scanner when subsequently scanning the same-dye reference array in the molecular array scanner~~.

8. (Currently Amended) The system of claim 7 wherein calculating the expected intensity for subsequently scanning the same-dye reference array in the first each of the number of molecular array scanner[[s]] further comprises:

determining a function of expected signal intensity ~~decrease~~ per scan of the same-dye reference array; and

selecting the expected intensity for ~~one of the number of molecular array scanners~~ the first molecular array scanner corresponding to one more than a number of times that the same-dye reference array has been scanned.

9. (Currently Amended) The system of claim 6 ~~wherein configured so that~~ one or more stable-dye reference arrays are used to maintain the initial calibration of ~~one of the number of molecular array scanners~~ the first molecular array scanner by:

scanning a stable-dye reference array with the molecular array scanner in order to determine a signal-intensity-to-stable-dye-concentration ratio; and

periodically rescanning the stable-dye reference array with the molecular array scanner, adjusting the molecular array scanner to provide the determined signal-intensity-to-stable-dye-concentration ratio.

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10. (Currently Amended) A computer readable medium having recorded thereon S signal intensity data, scanned from the surface of a molecular array by a molecular array scanner calibrated to a reference molecular array by the system of claim 6 1, ~~encoded by: storing representations of the signal intensity data in a machine readable medium; transmitting representations of the signal intensity data over an electronic communications medium; displaying the signal intensity data on display device; and printing representations of the signal intensity data in a human readable medium.~~